// Traffic Light Pins

const int r1 = 0;

const int y1 = 1;

const int g1 = 2;

const int r2 = 3;

const int y2 = 4;

const int g2 = 5;

const int r3 = 6;

const int y3 = 7;

const int g3 = 8;

// PIR Sensor Pins

const int pir1 = 9;

const int pir2 = 10;

const int pir3 = 11;

void setup() {

// Set light pins as OUTPUT

for (int i = 0; i <= 8; i++) {

pinMode(i, OUTPUT);

digitalWrite(i, LOW);

}

// Set PIR pins as INPUT

pinMode(pir1, INPUT);

pinMode(pir2, INPUT);

pinMode(pir3, INPUT);

}

void clearLights() {

for (int i = 0; i <= 8; i++) {

digitalWrite(i, LOW);

}

}

void signal1(int duration) {

clearLights();

digitalWrite(g1, HIGH);

digitalWrite(r2, HIGH);

digitalWrite(r3, HIGH);

delay(duration);

clearLights();

digitalWrite(y2, HIGH); // Yellow transition to next

delay(500);

}

void signal3(int duration) {

clearLights();

digitalWrite(r1, HIGH);

digitalWrite(g2, HIGH);

digitalWrite(r3, HIGH);

delay(duration);

clearLights();

digitalWrite(y3, HIGH);

delay(500);

}

void signal5(int duration) {

clearLights();

digitalWrite(r1, HIGH);

digitalWrite(r2, HIGH);

digitalWrite(g3, HIGH);

delay(duration);

clearLights();

digitalWrite(y1, HIGH);

delay(500);

}

void loop() {

int pir\_1 = digitalRead(pir1);

int pir\_2 = digitalRead(pir2);

int pir\_3 = digitalRead(pir3);

// Total GREEN time: 19500 ms, each yellow = 500ms × 3 = 1500ms

int t1 = 6500, t2 = 6500, t3 = 6500;

// Adjust timing based on sensor

if ((pir\_1 == LOW && pir\_2 == LOW && pir\_3 == LOW) || (pir\_1 == HIGH && pir\_2 == HIGH && pir\_3 == HIGH)) {

t1 = t2 = t3 = 6500;

} else if (pir\_1 == HIGH && pir\_2 == LOW && pir\_3 == LOW) {

t1 = 15000; t2 = 2500; t3 = 2000;

} else if (pir\_2 == HIGH && pir\_1 == LOW && pir\_3 == LOW) {

t1 = 2000; t2 = 15000; t3 = 2000;

} else if (pir\_3 == HIGH && pir\_1 == LOW && pir\_2 == LOW) {

t1 = 2000; t2 = 2500; t3 = 15000;

} else if (pir\_1 == HIGH && pir\_2 == HIGH && pir\_3 == LOW) {

t1 = 9000; t2 = 9000; t3 = 1500;

} else if (pir\_1 == HIGH && pir\_3 == HIGH && pir\_2 == LOW) {

t1 = 9000; t2 = 1500; t3 = 9000;

} else if (pir\_2 == HIGH && pir\_3 == HIGH && pir\_1 == LOW) {

t1 = 1500; t2 = 9000; t3 = 9000;

}

// Run the signals in sequence

signal1(t1);

signal3(t2);

signal5(t3);

}